BELCHEVA, M.; MILCHEV, M.

Adenomatosis of the lung. Khirurgiia, Sofia 14 no.5/6:517-524 '61.

1. Nauchnoizsledovatelski institut po tuberkuloza. Direktor: T. Sharkov.

(LUNG NEOPLASMS case reports)

BELCHEVA, M.; MATEEVA, TS.; SERETLIEV, D. Tekhn. sutrudnits: TOPUZANOVA, V.; IANEVA, M.; ELMAZOVA, S.; BONEVA, P.; TODOROVA, M.

Study of the chemical composition of human milk in deficient and normal lactation during the 1st 4 months. Akush. ginek. (Sofiia) 4 no.1:1-9 '65.

1. Nauchno-izsledovatelski institut po akusherstvo i ginekologiia (Direktor: prof. Dr. Papazov).

MATROVA, TS.; Belcheva, M.; SEPETLIEV, D.

Study on the chemical composition of human milk up to the 7th day following delivery. Akush. ginek. (Sofiia) 4 no.3: 175-180 '65.

1. Nauchno-izsledovatelski institut po akush. i ginekol., Sofiia (direktor: prof. B. Papazov).

BELCHEVA, M.

Bulgaria

Scientific Research Institiute of Obstetrics and Gynecology (Nauchno-izsledovatelski i-t po akusherstvo i ginekologiya), Sofia; Director: Br. Papazov, Prof.

Sofia, Akusherstvo i Ginekologiya, No 5 & 6, 1965, pp 513-517.

"Studies on the Effect of Some Factors on the Appearance of Hypogalactia."

Co-authors:

IVANOVA, Iv.
SEPETLIEV, D.

T

Country :Bulgaria
Category :Human and Animal Physiology, The Nervous System

Abs. Jour. :Ref Zhur Biol., No. 2, 1959, No. 8502

Author :Belcheva St., Penchev A.
Institut. :--
Title :A Method for Investigating Conditioned Motor Reflexes.

Orig Pub. :Izv. Otd. biol. i med. nauki, Bolg. AN Ser. eksperim. biol. i med., 1957, No. 1, 169--176

Abstract : The current breaks in a circuit associated a dog's raising its paw were recorded electromagnetically. With certain modifications, this method can be used in experiments featuring free movement, as well for recording the amplitude of the motor reaction in olfactory reflexes. --A.M.R.

Card: 1/1

L 15602-66

ACC NR: AP6008214 SOURCE CODE: BU/0011/65/018/004/0359/0362

AUTHOR: Vassileva-Dryanovska, O.; Belcheva, R.

21

ORG: Section on Genetics, Institute of Plant Physiology, Bulgarian Academy of Sciences

B

TITLE: Radiation gynogenesis in Salmo irideus Gibb

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 18, no. 4, 1965, 359-362

TOPIC TAGS: radiation biologic effect, biologic reproduction, genetics, irradiation, experiment animal

ABSTRACT: The diploid radiation gynogenesis of Salmo irideus Gibb. has been investigated. While D. D. Romashov et al. claimed they obtained diploid radiation gynogenesis with bone fish whose sperm was irradiated with 100,000 to 1,000,000 r, (see, e.g., Biofizika, 5, 1960, No. 4; Symp. Radiatsionnaya genetika [Radiation Genetics], M., 1960), the authors of the present study obtained the effect with a dose only half as strong (50,000 R) while in the case with sperm irradiated with 200,00 r the zygote developed gynogenetically only up to the stage of gastrula.

Card 1/2

2

L 15602-66

ACC NR: AP6008214

0

These differences raise a question about the effect of spermatozoa irradiated with high doses on the development of the embryo. It seems possible that with the different species the strong doses affect differently the result of radiation gynogenesis. The paper was submitted by Academician D. Yordonov, 26 August 1964. Orig. art. has 2 figures and 1 table. [JPRS]

SUB CODE: 06 / SUBM DATE: none / OTH REF: 006 / SOV REF: 004

LB

Card 2/2

VASSILEVA-DRYANOVSKA, O. A.[Vasileva-Drianovska, O. A.]; BELCHEVA, R. G.

Studies on the ovocytes of carassius auratus gibelio (Bloch) by the fluorescent auramine method. Doklady BAN 14 no.5:507-509 '61.

1. Submitted by Academician A. I. Hadjioloff[A. I. Khadzhiolov]

(Fluorescence)

VASSILEVA-DRYANOVSKA, O.A. [Vasileva-Drianovska, O.A.]; BELCHEVA, R.G.

Cytochemical studies of nucleic acid (DNA AND RNA) in carassius gibelio (Bloch) ovocytes. Doklady BAN 14 no.4:385-387 '61.

1. Biological Institute at the Bulgarian Academy of Sciences. Submitted by Academician A. Hadjiolov [A.Khadzhiolov].

VASSILEVA-DRYANOVSKA, O.].; BELCHEVA, R.

On fluorescent-microscopic studies of nucleic acids in the ovocytes of Carassius auratus gibelio (Bloch). Doklady BAN 16 no. 4: 413-415 '63.

1. Submitted by Academician A. I. Hadjiolov [Khadzhiolov, A. I.].

BELCHEVA, St.

Certain peculiarities of the motive dynamic stereotype in the performance of movements in a complex rhythm. Report I. Izv biol med BAN 3 no.3:51-62 '59. (EEAI 10:4)

1. Vissh meditsinski institut, Sofiia. Katedra po fiziologiia (Zavezhdasht katedrata: akad. D.Orakhovats)

(CONDITIONED RESPONSE)
(IMPULSE)
(MOVEMENT, PSYCHOLOGY OF)

BELCHEVA, St. (Sofia)

Certain peculiarities of the motive dynamic stereotype in the performance of movements in a complex rhythm. Report IV. Comparative study of muscle performance in handling an ergograph in a simple and complex rhythm. Izv biol med BAN 3 no.4:71-82 '60. (EEAI 10:3)

1. Vissh meditsinski institut, Sofia Katedra po fiziologiia (zav. katedrata: akad. D.Orakhovats)

(REFLEXES) (NERVOUS SYSTEM) (ERGOGRAPH)
(MUSCLES)

BELCHEVA, St.

On some characteristics of a dynamic motor stereotype in performing complex rhythm movements. I. Nauch. tr. vissh. med. inst. Sofia 39 no.2:163-184 '60.

1. Predstavena ot prof. d-r T. Gotsev, zav. Katedrata po fiziologiia.

(REFLEX CONDITIONED)

BELCHEVA, Stefka

On some characteristics of a dynamic motor stereotype in performing complex rhythm movements. III. Nauch. tr. vissh. med. inst. Sofia 39 no.2:185-199 '60.

1. Predstavena ot prof. d-r T. Gotsev, zav. Katedrata po fiziologiia.

(REFLEX CONDITIONED)

PENCHEV, A.; BELCHEVA, St.

Effect of summation of a continuous and brief light stimulation on the electroretinogram in the frog. Izv. inst. fiziol. (Sofiia) 6:171-178 '63.

(ELECTRORETINOGRAPHY) (LIGHT)

BOICHEVA, St.; PENCHEV, A.

Effect of summation of constant and rhythmic light stimuli on ERG in rabbits. Izv. Inst. fiziol. (Sofiia) 7:65-80 '64.

BEL'CHIKOV, Aleksandr Aleksandrovich

[Ineqvalities and fundamentals of functional analysis]Neravenstva i elementy issledovaniia funktsii; metodicheskoe posobie dlia podgotovitel'nykh kursov MATI. Moskva, 1962. 96 p.
(MIRA 16:4)

1. Moscow. Aviatsionnyy tekhnologicheskiy institut.
(Ineqvalities (Mathematics))
(Functional analysis)

VOLODIN, O.A.; BEL'CHIKOV, A.Ye.

Device for fastening a movable boring machine to the foundation frame. Gor.zhur. no.1:74 Ja '65. (MIRA 18:3)

BEL'CHIKOV, E.V., Kapitan meditsinskoy sluzhby

Characteristics of the manifestation of initial forms of parodontosis in naval personnel during lengthy cruises. Voen.-med. zhur. no.8:66-68 '62. (MIRA 16:9)
(GUMS—DISEASES) (MEDICINE, NAVAL)

BEL'CHIKOV, M.Ya.; SAMYLIN, N.A.; Prinimala uchastiye NOVIKOVA, V.I.

Investigation of the slime formation process at separate sections of the Coal Preparation Department No. 1 of the Yenakiyevo Coke-Chemical Plant. Koks i khim. no.7:9-11 Jl '61. (MIRA 14:9)

1. Yenakiyevskiy koksokhimicheskiy zavod (for Bel'chikov).
2. Ukrainskiy proyektno-konstruktorskiy i nauchno-issledovatel'skiy institut po obogashcheniyu i briketirovaniyu ugley (for Samylin).

(Yenakiyevo--Coal preparation)

BEL'CHIKOV, M.Ya.; NAZARENKO, V.M.

New coal-flotation reagent. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.3:17-19 '63.
(MIRA 16:4)

(Flotation) (Coal preparation)

BEL'CHIKOV, M.Ya.; NOLIKOV, N.F.; PAVLYUCHENKO, S.C.

Improvement of flotation at the Sukhodol'skoye Central Coal Preparation Plant. Ugol' 40 no.9:67-71 S '65. (MIRA 18:10)

1. Ukrainskiy proyektno-konstruktorskiy i nauchno-issledovatel'skiy institut po obogashcheniyu i briketirovaniyu ugley (for Bel'chikov). 2. Sukhodol'skaya tsentral'naya ugleobogatitel'naya fabrika (for Nolikov, Pavlyuchenko).

NAZARENKO, V.M., kand.tekhn.nauk; BEL'CHIKOV, M.Ya.

Introducing a reagent for the flotation of coal smalls. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh.inform. 18 no.5:14 My '65. (MIRA 18:6)

BEL CHIKOV, N.F.

USSR/Miscellaneous - Literature

Card 1/1 : Pub. 124 - 5/24

Authors : Bel'chikov, N. F., Memb. Corres. of Acad. of Sc. USSR

Title : Soviet literature and its aims

Periodical : Vest. AN SSSR 9, 36-45, Sep 1954

Abstract : The problems involved in improving classic Soviet publications and other literature are explained and the progress made in the preparation and publication of various books (whether academic or popular) is discussed.

Institution : ...

Submitted : ...

BEL'CHIKOV, P.; LYANDRES, Ya.

Experience meriting wide dissemination. Voen. znan. 40 no.1: 26-27 Ja '64. (MIRA 17:4)

BEL'CHIKOV, S.F., inzh.

Replacing fabric interpads on press ironers with thin metal nets.
Shvein. prom. no.4:31 Jl-Ag '59. (MIRA 13:2)

1.Tallinskiy shveynyy kombinat.
(Pressing of garments)

BEL'CHIKOVA, E. P.

"Corrosion of Metals by Non-Aqueous Solutions: The Action of Ethyl Alcohol on Metals," Dok. AN, 29, No. 1, 1940.

All-Union Inst. Aircraft Materials, 1940.

YAKOBSON, G.G.; D'YACHENKO, A.I.; BEL'CHIKOVA, F.A.

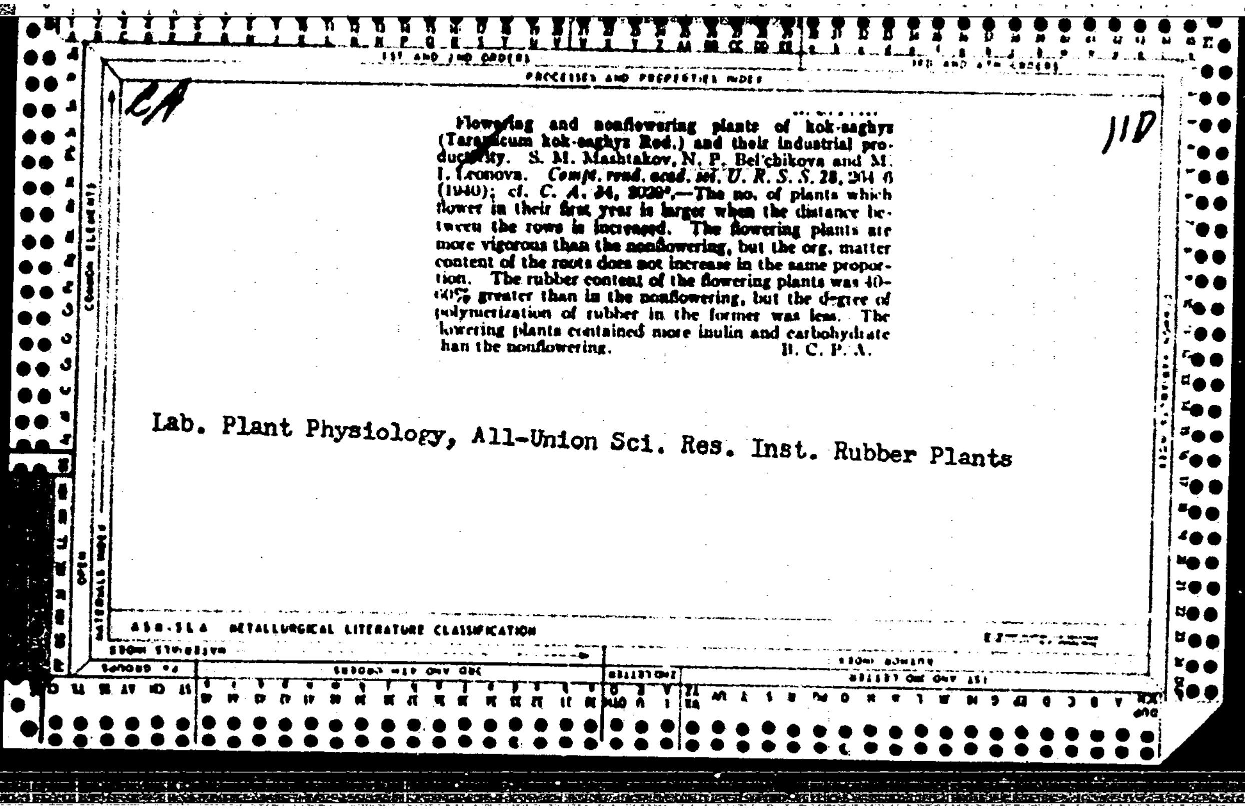
Aromatic fluoro derivatives. Part 9: Diazotation of aromatic amines by nitrosyl boron fluoride. Zhur.ob.khim. 32 no.3: 849-853 Mr '62. (MIRA 15:3)

1. Novosibirskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR i Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I.Mendeleyeva.
(Amines) (Diazotizatipn) (Fluorides)

BEL'CHIKOVA, M. B.

BEL'CHIKOVA, M. B.--"Activity of Alkaline Phosphatase of the Plasma of the Blood in the Presence of Pathological Processes of the Maxillary-Facial Region." Acad. Sci. Latvian SSR, Experimental Medicine, Riga, 1955. (Dissertation for the Degree of Candidate in Medical Sciences)

SO: Knizhnaya Letopis', No. 35, 1955



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

11D

Flowering and nonflowering plants of kok-saghyz (Taraxacum kok-saghyz Rod.) and their industrial productivity. S. M. Mashtakov, N. P. Bel'chikova and M. I. Leonova. *Compt. rend. acad. sci. U. R. S. S.* 28, 204-6 (1940); cf. *C. A.* 34, 3020.—The no. of plants which flower in their first year is larger when the distance between the rows is increased. The flowering plants are more vigorous than the nonflowering, but the org. matter content of the roots does not increase in the same proportion. The rubber content of the flowering plants was 40-60% greater than in the nonflowering, but the degree of polymerization of rubber in the former was less. The flowering plants contained more inulin and carbohydrate than the nonflowering. B. C. P. A.

Lab. Plant Physiology, All-Union Sci. Res. Inst. Rubber Plants

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

PROCESSES AND PROPERTIES INDEX

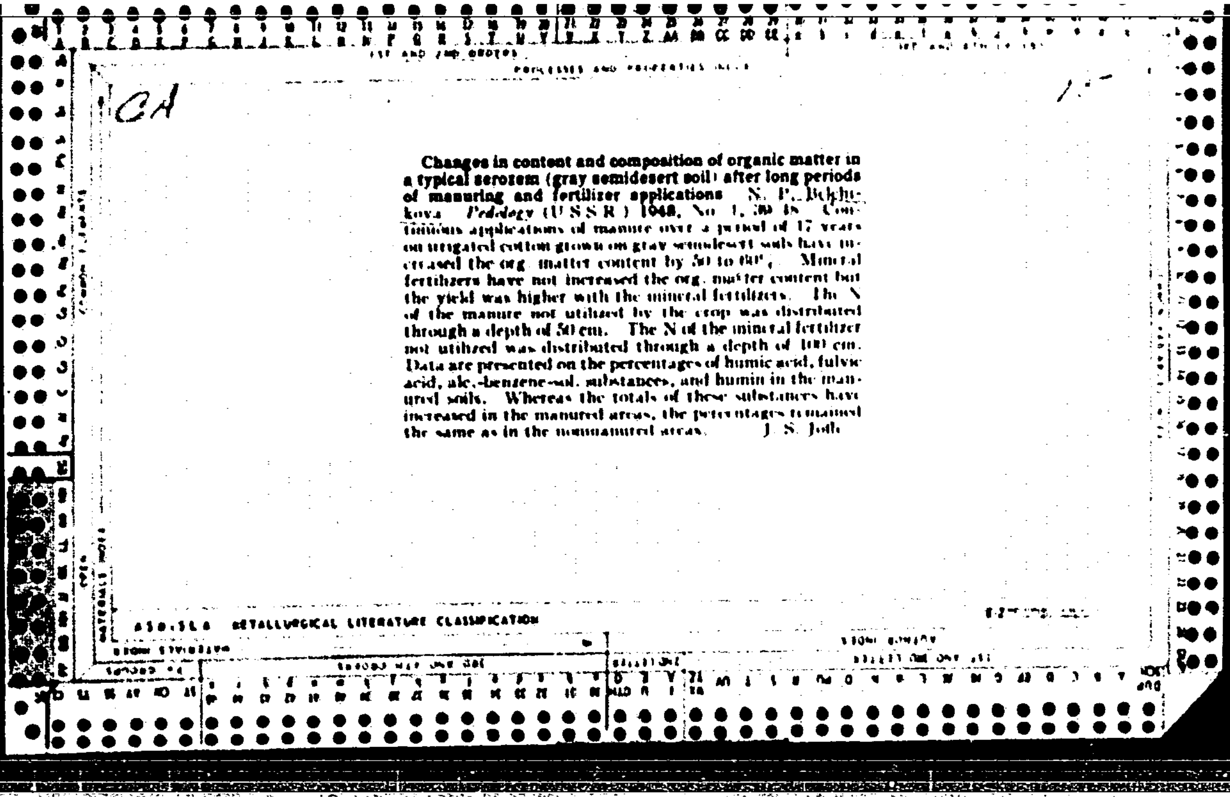
15

A study of the humification of plant residues by a microscopic method. M. M. Kononova and N. P. Bel'chikova. *Pedology* (U.S.S.R.) 1946, 329-38. The changes in the tissues of plants (roots and leaves of clover and alfalfa roots) were followed microscopically simultaneously with chem. analyses. It was established that the brown substances need not be of lignin origin. The carbohydrates and lytic plasma of bacteria give rise to these substances. The myxobacteria seem to be active in this process. These substances are named prohumus and have 107 to 167 milliequiv. of exchange capacity for cations. Podzol and chernozem soils were examined for these substances.

J. S. Joffe

Soil Inst. im V.V. Dokuchayev, AS USSR

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

1

Changes in content and composition of organic matter in a typical serozem (gray semidesert soil) after long periods of manuring and fertilizer applications. N. P. Bel'chikova. *Pedology* (U.S.S.R.) 1948, No. 1, 30-8.—Continuous applications of manure over a period of 17 years on irrigated cotton grown on gray semidesert soils have increased the org. matter content by 50 to 60%. Mineral fertilizers have not increased the org. matter content but the yield was higher with the mineral fertilizers. The N of the manure not utilized by the crop was distributed through a depth of 50 cm. The N of the mineral fertilizer not utilized was distributed through a depth of 100 cm. Data are presented on the percentages of humic acid, fulvic acid, alc.-benzene-sol. substances, and humin in the manured soils. Whereas the totals of these substances have increased in the manured areas, the percentages remained the same as in the nonmanured areas. J. S. Joffe

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BEL'CHIKOVA, N. P.

USSR/ Agriculture-Soil Science-Humus Jan 49

"Change in the Content and Composition of Organic Matter in Soil Cultivation," M. M. Konova, N. A. Pankova, N. P. Bel'chikova, 9 pp

"Pochvoved" No 1

Experiments conducted over many years showed that highest humus content was obtained in soils which had been fertilized with manure. Top 20 cm of soils had highest humus content. In general, the amount of humus created as 1/4 - 1/3 of the amount of manure applied. Describes simple method to determine presence of free humic acids in soils treated with manure. Further research will be conducted to determine the amount of humus created in fields planted on a crop rotation system with periodic plantings of perennial grasses.

PA 56/49T4

CA

/5

Experimental characterization of soil humic acids by spectrophotometry. M. M. Kononova and N. P. Bel'chikova. *Doklady Akad. Nauk S.S.S.R.* 72, 125 (1950). Spectrophotometry of solns. of Na humates at 720, 665, 610, 574, 533, 496, and 465 mμ was performed with samples derived from various soil types. All curves are similar with max. absorption in blue region (465 mμ) and min. in red (720 mμ), but extinction varies with soil type (given graphically) with chernozem being most opaque, podzol most transparent. The latter is characterized by less than 0.5 ratio of humic/fulvic acid ratio, while chernozem gives values about 2.1. G. M. K.

BEL'CHIKOVA, N.P.

Some regularitites in the content and composition of humus and the properties of humic acids in the principal soil groups of the USSR. Trudy Poch. inst. no. 38, 1951

BELCHIKOVA, N. P., and KONONOVA, M.

"Humus der Böden der U.D.S.S.R. seine natur and rolle in Bodenbildungsprozessen"

report submitted for the 6th Intl. Congress of Soil Science,
Paris, France
28 August 1956

BEL'CHIKOVA, N.P.

KONONOVA, M.M.; BEL'CHIKOVA, N.P.; NIKIFOROV, V.K.

Using the chromotographic method for studying the nature of humic substances in soil [with summary in English]. Pochvovedenie no. 3:83-88 Mr '58. (MIRA 11:4)

1. Pochvennyy institut im. V.V. Dokuchayeva AN SSSR.
(Chromotographic analysis) (Humus)

KONONOVA, M.M.; BEL'CHIKOVA, N.P.

Using the fractionation method for investigating the nature of humic substances of soil. Pochvovedenie no.11:1-9 N '60. (MIRA 13:11)

1. Pochvennyy institut im. V.V.Dokuchayeva Akademii nauk SSSR. (Humus)

KONONOVA, M.M.; BEL'CHIKOVA, N.P.; ALEKSANDROVA, I.V.

Conference on methods applied for studying soil humus. Pochvovedenie
no.11:110-112 N '60. (MIRA 13:11)
(Humus)

KONONOVA, M.M.; BEL'CHIKOVA, N.P.

Rapid methods for determining the humus content of mineral soils.
Pochvovedenie no.10:75-87 O '61. (MIRA 14:9)

1. Pochvennyy institut imeni V.V. Dokuchayeva.
(Humus)

BEL'CHIKOVA. Yu. S.

GRASHCHENKOV, Nikolay Ivanovich; LISITSYN, Yuriy Pavlovich; KRYACHKO, I.A., red.; BEL'CHIKOVA, Yu.S.

[Health services in the U.S.S.R. and the progress of Soviet medicine] Zdravookhranenie v SSSR i dostizheniia sovetskoi meditsiny. Moskva, Gos. izd-vo med. lit-ry, 1958. 122 p. (MIRA 11:7)
(PUBLIC HEALTH)

GANZ, S.N.; LUK'YANITSA, A.I.; BEL'CHINA, L.A.

Production of nitrogeneous-ferrous fertilizers from pickling solution wastes. Zhur.prikl.khim. 37 no.7:1606-1609 Jl '64.

Simultaneous production of nitrogeneous-ferrous fertilizers and purification of gases by the removal of nitrogen oxides. Ibid.:1609-1611 (MIRA 18:4)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut.

KUSHNIR, A.Ye.; YEFREMOV, V.P.; BEL'CHINSKIY, V.A.

"Geodesy in construction" by N.K.Farenbrukh. Reviewed by A.E. Kushnir, V.P.Efremov, V.A.Bel'chinskii. Prom.stroi. no.10: 56-3 of cover '62. (MIRA 15:12)

1. Kazgiprotsvetmet.
(Geodesy) (Building)
(Farenbrukh, N.K.)

VICIU, E.,; POPESCU, M.,; DORIN, E.,; BERCEANU, St.,; BELCHITA, A.,;
NESTOR, R.

Study of blood protein disorders in rheumatismal endocarditis and endocarditis lenta; their pathogenetic and clinical significance. Probl. reumat., Bucur. Vol. II.:201-220 1954.

(BLOOD PROTEINS
disord. in rheum. endocarditis & endocarditis lenta)
(ENDOCARDITIS, SUBACUTE BACTERIAL, etiol. & pathogen.
blood protein disord.)
(RHEUMATIC HEART DISEASE, etiol. & pathogen.
blood protein disord.)

KLEINEMAN, Conf.; HAGI-PARASCHIV, L., dr.; BELCHITA, dr.

Periarterita nodoasa si lupusul eritematos diseminat. Med. int., Bucur. 7 no.4:76-88 Oct-Dec 55.

1. Clinica a III-a medicala IMF - Spitalul Bernat Andrei - Bucur.
(LUPUS ERYTHEMATOSUS, DISSEMINATED
differ. diag. & case reports)
(PERIARTERITIS NODOSA
differ. diag. & case reports)

KLEINERMAN, L., Conf.; BELCHITA, A., dr.; PANTZER, M., dr.

The anginal syndrome and ECG changes in a case of trichinosis.
Med. int., Bucur. 4 no.8:1230-1232 Dec 56.

1. Lucrare efectuata in Clinica a III-a medicala I.M.F.,
Bucuresti.
(TRICHINOSIS, manifestations
anginal synd. & ECG changes, case report)
(ANGINA PECTORIS, case reports
anginal synd. & ECG changes in trichinosis)
(ELECTROCARDIOGRAPHY, in various diseases
trichinosis, with anginal synd.)

KHMEL'NITSKAYA, Ye.L., prof., doktor ekon. nauk; VOLKOV, M.Ya., kand. ekon. nauk; BEL'CHUK, A.I., kand. ekon. nauk; IORDANSKAYA, E.N., ml. nauchn. sotr.; MENZHINSKIY, Ye.A.; PAVLOVA, M.A., kand. ekon. nauk; VASIL'KOV, N.P., kand. ekon. nauk; ARDAYEV, G.B., kand. ekon. nauk; VAL'KOV, V.A., kand. ekon. nauk; TIMASHKOVA, O.K., kand. ekon. nauk; ANDREYEV, Yu.K., ml. nauchn. sotr.; PUSHKIN, A.A., ml. nauchn. sotr.; MAKSIMOVA, M.M., kand. ekon. nauk; KIRSANOV, A.V., kand. ekon. nauk; SHEBANOV, A.N., ml. nauchn. sotr.

[Changes in the economic structure of the countries of Western Europe]Izmeneniia v ekonomicheskoi strukture stran Zapadnoi Evropy. Moskva, Nauka, 1965. 433 p. (MIRA 18:9)

1. Akademiya nauk SSSR. Institut mirovoy ekonomiki i mezhdunarodnykh otnosheniy.

PAPSUYEV, N.N.; BEL'CHUK, G.A., otvetstvennyy redaktor; MINYAYEVA, G.A., redaktor; KONTOROVICH, A.I., tekhnicheskiy redaktor

[Industrial methods of preventing welding deformations] Proizvodstvennye sposoby predotvrashcheniia svarochnykh deformatsii. [Leningrad] Gos. izd-vo sudostroit. lit-ry, 1952. 82 p. [Microfilm]
(Welding) (Shipbuilding) (MLRA 7:10)

BEL'CHUK, G.A.; DORMIDONTOV, V.K.; MESHCHERYAKOV, V.V.; NAUMOV, V.D.;
PUGACHEV, A.S.; SOKOLOVA, L.V., tekhnicheskiy redaktor.

[Technology of ship building] Tekhnologiia sudostroeniia. Pod obshchei red. V.K.Dormidontova. Leningrad. Gos. soiuznoe izd-vo sudostroit.promyshl., 1954. 560 p. (MIRA 8:5)
(Shipbuilding)

BEL'CHUK, G.A., kandidat tekhnicheskikh nauk; **NIKOLAYEV, K.G.**, kandidat tekhn. nauk, retsenzent; **SAGALOVICH, D.N.**, inzhener, redaktor; **FRUMKIN, P.S.**, tekhnicheskiy redaktor

[Welded seams and joints in ship hulls] Svarnye shvy i soedineniia korpusa dusna. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 123 p. (MLRA 8:1)
(Shipbuilding) (Welding)

NEBYLOV, Vladimir Matveyevich; BEL'CHUK, G.A., kandidat tekhnicheskikh nauk; redaktor; OSVENSKAYA, A.A., redaktor; DVORAKOVSKAYA, A.A., tekhnicheskiy redaktor.

[Strength of welded seams of ships' hulls] Prochnost' svarnykh shvov korpusa sudna. Pod obshchei red.kand.tekhn.nauk G.A.Bel'chuka. Leningrad, Gos.soiuznoe izd-vo sudostroit.promyshl., 1955. 151 p. (Hulls (Naval architecture)--Welding) (MLRA 9:5)

BEL'CHUK, Georgiy Aleksandrovich; MATSKEVICH, Vadim Dmitriyevich;
DEMYANTSEVICH, V.P., redaktor; OSVENSKAYA, A.A., redaktor;
KONTOROVICH, A.I., tekhnicheskiy redaktor.

[Welding in ship-building] Svarka v sudostroenii. Leningrad,
Gos.Soiuznoe izd-vo sudoistroit.promyshl.1955. 387 p.
(Ships--Welding) (MLRA 8:10)

Bel'chuk, G. A.

137-1957-12-22952

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 17 (USSR)

AUTHORS: Bel'chuk, G. A., Matskevich, V. D.

TITLE: The Scientific and Engineering Activity of Viktor Petrovich Vologdin and His Part in the Development of Welding in the Domestic Shipbuilding Industry (Nauchnaya i inzhenernaya deyatel'nost' Viktora Petrovicha Vologdina i yego rol' v razvitii svarki v otechestvennom sudostroyenii)

PERIODICAL: Tr. Leningr. korablestroit. in-ta, 1956, Nr 19, pp 5-15

ABSTRACT: A presentation of short biographical data, as well as a description of Vologdin's work in the field of welding, beginning with 1923, when upon his initiative a welding shop was introduced at the Dal'zavod plant. In domestic shipbuilding for inland and marine navigation the name of Vologdin is associated with the conversion of vessels from riveted to welded construction. Vologdin always combined his scientific and teaching activities with his industrial work. Since 1933 Vologdin has headed the welding group of the Glavmorprom in Leningrad. During the ensuing years he worked out the technical specifications for steel in welded products,

Card 1/2

137-1957-12-22952

The Scientific and Engineering Activity of Viktor (cont.)

devised a standard for welded connections and seams, evolved an extensive classification of spoilage in welded connections, compiled technical specifications for oxygen in gas-welding of metal, and studied the problem of low-alloy steel welding and the application of welding to naval shipbuilding. Vologdin's monograph, embracing a tremendous wealth of experience in the field of welding, was published in 1945.

Ye. Ch.

1. Metallurgy-USSR 2. Welding 3. Biography

Card 2/2

BEL'CHUK, G.A

137-58-3-5151

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 96 (USSR)

AUTHORS: Bel'chuk, G. A., Babayev, A. N.

TITLE: Development of a Calculation Method for the Selection of a Proper Welding and Bead Welding Procedure for Carbon Steels (Razrabotka raschetnogo sposoba vybora rezhima svarki i naplavki uglerodistykh staley)

PERIODICAL: Tr. Leningr. korablestroit. in-ta, 1956, Nr 19, pp 27-40

ABSTRACT: A mathematical-experimental method (M) is developed which permits the selection of a proper welding and bead welding procedure and which takes in account the continuity of the process of decomposition of austenite (DA), as well as the length of time during which a predetermined temperature (T) of metal is maintained in the zone adjacent to the seam or within the built-up area. The M is based on the following two relationships: 1) the mechanical characteristics of the built-up metal and of the area near the seam are functions of the T at which the DA begins, and of the length of time during which the predetermined T is maintained; 2) the T of the beginning of the DA and the length of time during which the predetermined T is main-

Card 1/2

137-58-3-5151

Development of a Calculation Method for (cont.)

tained depend on the chemical composition of steel (the curve of isothermal DA), the technological conditions of welding, and the shape of the welded joint, in case of welding, or the shape of the component, in case of bead welding. The first relationship is established experimentally, while the second is established by means of calculations according to the theory of N. N. Rykalin and the method of S. S. Shteynberg. An example is examined in which the described M was employed in the selection of a proper procedure for automatic bead welding with flux of shafts made of 45 grade steel. It is pointed out that further research, based on the abovedeveloped M, will permit to establish ranges of optimal conditions for high-alloyed and special steels.

A.K.

Card 2/2

KUZ'MENKO, V.K., inzhener; AFANAS'YEV, I.A., inzhener; LIBERMAN, A.S., inzhener; BEL'CHUK, G.A., kandidat tekhnicheskikh nauk.

Deformations in sheet-steel hull structures and ways to avoid them. Sudostroenie 22 no.7:19-23 Jl '56. (MLRA 9:10)

(Hulls (Naval architecture)) (Deformations (Mechanics))

BELCHUK, G.A.

137-58-5-9926

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 150 (USSR)

AUTHORS: Matskevich, V.D., ~~Bel'chuk, G.A.~~, Dreyzenshtok, Z.B., Matsov, M.M.

TITLE: The Role of Welded Fabrication in the Shipyards of Leningrad (Rol' svarochnogo proizvodstva na sudostroitel'nykh zavodakh Leningrada)

PERIODICAL: V sb.: Svarochnoye proiz-vo. Leningrad, Lenizdat, 1957, pp 177-187

ABSTRACT: A brief review is presented of the development and the current state of welding fabrication at the shipyards of Leningrad. Significant successes in welding applications achieved by Leningrad shipbuilders are noted.

B.V.

1. Ships--Construction 2. Welding--Applications

Card 1/1

BEL'CHUK, G. A.

135-1-3/14

SUBJECT: USSR/Welding

AUTHORS: Babayev, A.N., Candidate of Technical Sciences, and Bel'chuk, G.A., Candidate of Technical Sciences, University Lecturer.

TITLE: Selecting the regime for welding and surfacing carbon steel. (K voprosu o metodike vybora rezhima svarki i naplavki uglerodistykh staley).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, Nr. 1, pp 8 - 12 (USSR)

ABSTRACT: Critical survey of the existing methods in welding regimen selection. The calculation method by S.S. Steinberg (5), (6) is considered by the authors as the most precise method existing. The proposed welding regime - selecting method consists of calculation based on austenite disintegration temperature as shown in the article diagrams (considering the time of maintaining the metal at the temperature above a certain point, and the continuity of austenite disintegration).

Like the existing methods, the proposed method requires preliminary calculations and experiments, on the results of which the final diagram has been plotted. This diagram serves as a

Card 1/2

TITLE: Selecting the regimen for welding and surfacing carbon steel. (K voprosu o metodike vybora rezhima svarki i naplavki uglerodistykh staley). 135-1-3/14

simple means for the choice of welding regime to obtain predetermined mechanical properties of weld and base metal adjacent to the weld.

Professor Glikman, L. A., Doctor of Techn. Sciences, was consulted during the experiments.

The article contains 7 diagrams, 1 photograph and 8 references, 7 of which Slavic.

INSTITUTION: The Leningrad Shipbuilding Institute (Leningradskiy korablestroitel'nyy Institut)

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress

Card 2/2

Bel'chuk, G. A

137-1957-12-24157

Translation from: Referativnyy zhurnal Metallurgiya, 1957, Nr 12, p 181 (USSR)

AUTHORS: Bel'chuk, G. A., Frumin, S. R.

TITLE: Local Heating Employed for Straightening of Sheet-Metal Hull Sections Deformed by Welding (Pravka mestnymi nagrevami deformirovannykh svarkoy listovykh konstruktsiy korpusa)

PERIODICAL: Tr. Tsentr. n.-i. in-ta rech. flota, 1957, Nr 36, pp 142-164

ABSTRACT: An analysis of existing methods for hot and cold straightening (S) of sheet-metal hull sections of river vessels in the course of their manufacture and repair. An approximate theoretical analysis is presented, together with an experimental investigation of the process of the S of elastically deformed strips and bulged sections by means of local heating. The results of an industrial verification of the proposed method of hot S are given. A method is proposed for the determination of the parameters of the S process by means of local heating as a function of the shape and the dimensions of the curved sections and of a calculation of the technological processes for the S of structures made of thin sheet metal. It is established that the currently employed method for the S of structures made of thin sheet metal by spot heating areas (20-60 mm in diameter,

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137-1957-12-24157

Local Heating Employed for Straightening of Sheet-Metal Hull (cont.)

arranged either successively or in a staggered fashion) is ineffective. More effective is the method of heating strip areas distributed along the slope of the bulged sections and parallel to their boundaries, and subjecting them to hammering; this ensures that the contraction proceeds in the proper directions. Heating the top of the bulge is not recommended.

V. S.

1. Ship hulls-Welding-Deformation 2. Heating-Applications

Card 2/2

25(1) SOV/135-59-5-5/21

AUTHOR: Bel'chuk, G. A., Candidate of Technical Sciences

TITLE: Heat Distribution Between the Elements of a T-Connection in Arc Welding

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 5, pp 13-15 (USSR)

ABSTRACT: To correctly determine the amount of transverse contraction occurring during welding of ship structures, it is necessary to know the heat distribution between the elements of the T-constructions. To find this out, experiments were conducted based on the following suppositions: in the process of heat distribution in welding, the heat in the sheet is distributed evenly throughout its cross-section at a short distance from the heat source; if we measure the temperature at equidistant points on the elements of the T-section (Figure 1), and we know the rules governing heat distribution, then we can estimate the amount of heat passing through each of the elements. Formulae are derived for cases where the thicknesses of the wall and crosspiece are nearly equal (Figure 1a) and where the crosspiece is considerably thicker than

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SOV/135-59-5-5/21

Heat Distribution Between the Elements of a T-Connection in Arc Welding

the wall (Figure 1b). The experimental part of the work was then carried out with the participation of laboratory workers G. M. Lyubimova, S. F. Glazova and N. V. Volkova. The T-connection samples of shipbuilding steel consisted of crosspieces 200 x 200 x δ_N and walls 200 x 100 x δ_c , the respective thicknesses varying from 4 to 25 mm and 4 to 10 mm. The samples were welded by an ADSh-500 automatic welder with Sv-08 wire and OSTs-45P flux. The welding conditions (350 amps, 35 v, welding speed 15, 30 and 45 meters per hour) were typical for the welding of angular seams. The temperature, current and voltage were recorded on the tape of a 27-loop oscillograph produced by the "Geofizika" plant. The results of the experiments, shown in Figure 3 in the form of the relation of the coefficient Kc on the relationship of the thickness of the wall to the thickness of the crosspiece δ_c/δ_N , show that heat distribution proportional to the thickness of the elements of the T-connection does not take place. The reasons given for this are: 1) when the seam metal runs down the vertical wall, the latter is heated more intensely by the arc while the flow of metal along the horizontal cross-

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Heat Distribution Between the Elements of a T-Connection in Arc Welding

piece restricts the transfer of heat from the arc to the crosspiece; 2) at high automatic welding speeds, the transfer of heat to the elements of the crosspiece is mainly determined by the character of their contact with the arc since the temperature gradient along the length of the elements is small. This last factor was verified by manual welding. The formula

$$K_c = 0.374\sqrt{\frac{\delta_c}{\delta_N}} \qquad (7)$$

valid for the ratio $\frac{\delta_c}{\delta_N}$ from 0.2 to 1.2 (dotted line, Figure 3) is finally derived and stated to be valid for heat distribution between the wall and the crosspiece of a T-connection during the welding of the first and second angular seams. Separate tests showed that the coefficient Kc varied little when a second seam was made. The steel used in these experiments had the following chemical composition: 0.18%C; 1.05% Mn; 0.47% Si; 1.02% Cr; 0.43%N; 0.027%S; 0.028%P. There is 1 diagram, 2 graphs and 1 Soviet reference.

SOV/135-59-5-5/21

Heat Distribution Between the Elements of a T-Connection in Arc Welding

ASSOCIATION: Leningradskiy korablestroitel'nyy institut (Leningrad Shipbuilding Institute)

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S/137/61/000/001/022/043
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1961, No. 1, p. 10, # 1E75

AUTHORS: Bel'chuk, G.A., Gluskin, D.Ya., Fedorov, N.A.

TITLE: On the Problem of Welding Aluminum and Its Alloys With Steel

PERIODICAL: "Tr. Leningr. korablestroit. in-ta", 1959, No. 29, p. 257

TEXT: Information is given on experimental argon-arc building-up and welding of Al and its alloys (АМг-6Т (AMg-6t) type) with steel on whose surface a 0.1 mm thick Al, 0.04 mm thick Zr or 0.02 - 0.05 mm thick Ni layer had been previously applied. The following welding technology is recommended: an Al layer is applied on the steel surface by "allitization" (allitirovaniye) or a Zn layer by hot zincing. On this surface a 20 - 25 mm wide Al layer is welded (3 - 4 beads); then Al or its alloys are welded on the built-up layer by any type of joint. The average tensile or shearing strength of a welded joint is 9-11 kg/mm^2 at an Al-coating and 4-8 kg/mm^2 at a Zn-coating. The strength of the joint is reduced when welding without preliminary building-up. V. B.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

BEL'CHUK, Georgiy Aleksandrovich, kand. tekhn. nauk, dots., prepodavatel'; MATSKEVICH, Vadim Dmitriyevich, kand. tekhn. nauk, dots., prepodavatel'; DEMYANTSEVICH, V.P., dots., kand. tekhn. nauk, nauchnyy red.; PROKHOROV, N.N., prof., doktor tekhn. nauk, retsenzent; KAZAROV, Yu.S., red.; KOROVENKO, Yu.N., tekhn. red.

[Welding in shipbuilding] Svarka v sudostroenii. Leningrad, Gos. soiuznoe izd-vo sudostroit. promyshl., 1961. 431 p. (MIRA 14:10)

1. Kafedra "Svarka sudovykh konstruktsiy" Leningradskogo korablestroitel'nogo instituta (for Bel'chuk, Matskevich).
(Shipbuilding) (Welding)

87995

S/135/61/000/001/005/018
A006/A001

18.8200 only 2708, 2808, 4016

AUTHOR: Bel'chuk, G.A., Candidate of Technical Sciences

TITLE: On an Approximate Method of Calculating the Mechanical Properties of Welds

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 1, pp. 18-22

TEXT: The author shows the possibility of carrying out approximate calculations of mechanical characteristics of the weld metal depending on welding conditions, by the relative characteristics of the mechanical properties of the base metal (the relations σ/σ_{B_0}; σ_T/σ_{T_0}; HV/HV_0; ψ/ψ_0) Св-08А (Sv-08A) welding wire of 2; 4 and 5 mm in diameter was built up under ФЦ-9 (FTs-9) flux on low-carbon steel sheets. The linear energy of building up was calculated by a known formula. The magnitude of the efficiency of heating was assumed as equal to $\eta_{\text{и}}$ = 0.8. On each sheet 2 beads were welded with an interspace of 80 - 100 mm. To determine more precisely the part of the rigidity affecting the plastic deformation in the seam metal, 20 mm thick sheets were butt-welded with final shaping (Figure 1). Specimens for mechanical tests were cut out of the weld center. The mechanical properties of the built up metal as functions of the linear energy are

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On an Approximate Method of Calculating the Mechanical Properties of Welds

expressed in the form of the following relations: $f(\sigma_B) = \sigma_{B_1}/\sigma_{B_0}$; $f(\sigma_T) = \sigma_{T_1}/\sigma_{T_0}$; $f(HV) = HV_1/HV_0$. σ_{B_1}, σ_{T_1}, HV_1 are absolute values of ultimate strength, yield limit and hardness corresponding to the welding conditions; σ_{B_0}, σ_{T_0}, HV_0 are the corresponding characteristics of the base metal. The instantaneous rate of weld metal cooling is used as an argument. This rate is determined by the known Rykalin's formula:

$$\omega = - \frac{v}{\theta} \frac{2\pi\lambda(T_m - T_o)^2}{9n} \qquad (1)$$

when $\frac{1}{\theta} \leqslant 5$; and by the formula

$$\omega = - \frac{2\pi\lambda \; c\gamma \; (T_m - T_o)^3}{(9n / \delta)^2} \qquad (2)$$

if $\frac{1}{\theta} > 5$,

where ω is the instantaneous cooling rate of the seam metal along its axis in °C/sec; $\frac{1}{\theta}$ is the dimensionless criterion equal to

$$\frac{1}{\theta} = \frac{2q_n}{\pi c \gamma \delta^2 (T_m - T_o)}$$

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On an Approximate Method of Calculating the Mechanical Properties of Welds

$\frac{v}{\theta}$ - is the dimensionless criterion determined by Rykalin's graph (Ref. 1) λ is the coefficient of heat conductivity in cal/cm.sec°C; T_m is the temperature of the minimum austenite stability in °C; T_o is the temperature of preheating in °C; q_n is the linear energy in cal/cm; $c\gamma$ is the volumetric heat capacity in cal/cm^3 °C; δ is the thickness of the part in cm. The dependence of characteristics $f(\sigma_B)$; $f(\sigma_T)$; $f(\psi)$; $f(HV)$ on the instantaneous cooling rate ω is shown in Graph 5. The data obtained are compared with results given by S.A. Ostrovskaya (Ref. 3) and a satisfactory agreement is observed. The graph 5 can be used to estimate the effect of welding conditions on the mechanical properties of the weld metal when welding low carbon steels, and can be used for the approximate calculation of expected mechanical properties of the weld metal using the formulae: $\sigma_B = f(\sigma_B \cdot \sigma_{B_0})$ (4); $\sigma_T = f(\sigma)_T \cdot \sigma_{T_0}$, (5); $\psi = f(\psi) \cdot \psi_o$, (6); $HV = f(HV) \cdot HV_o$ (7),

where σ_{B_o}, σ_{T_o}, ψ_o, HV_o are the corresponding characteristics of the base metal and $f(\sigma_B)$ $f(\sigma_T)$ $f(\psi)$, $f(HV)$ values of functions determined according to Graph 5.

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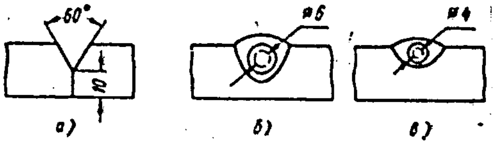
A006/A001

On an Approximate Method of Calculating the Mechanical Properties of Welds

Figure 1



Final shaping for welding (a) and the schematic representation of cutting out specimens for mechanical tests (b, c)

On an Approximate Method of Calculating the Mechanical Properties of Welds

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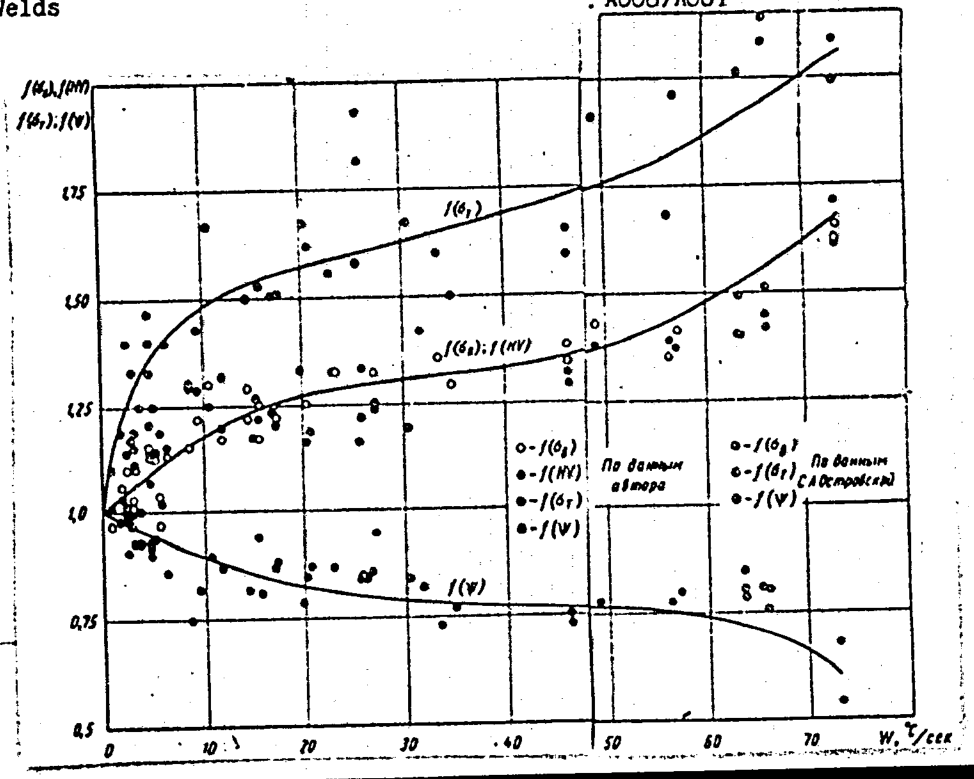
A006/A001

Figure 5:



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A006/A001

On an Approximate Method of Calculating the Mechanical Properties of Welds

Figure 5

A graph of relative characteristics of the mechanical properties of the weld metal $f(\sigma_B)$, $f(\sigma_T)$, $f(\psi)$, $f(HV)$ depending on the instantaneous cooling rate of the seam.

There are 4 tables, 6 figures and 6 references: 5 Soviet and 1 English.

ASSOCIATION: Leningradskiy korablestroitel'nyy institut (Leningrad Shipbuilding Institute)

BEL'CHUK, Georgiy Aleksandrovich, kand. tekhn. nauk; RYZHIK, Z.M., red.; FREGER, D.P., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Technological features of the argon arc welding of aluminum and its alloys with steel; verbatim report of a lecture, delivered at the Leningrad House of Scientific and Technical Propaganda in a city seminar on metal welding] Tekhnologiia argono-dugovoi svarki aliuminiia i ego splavov so stal'iu; stenogramma lektsii, prochitannoi v LDNTP na obshchegorodskom seminare po svarke metallov. Leningrad, 1961. 15 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Seriia: Svarka i paika metallov, no.5) (MIRA 14:7)

(Electric welding)

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21091
S/135/61/000/005/003/011
A006/A101

AUTHOR: Bel'chuk, G. A., Candidate of Technical Sciences

TITLE: Investigation of some peculiarities in the technology of argon-arc welding of aluminum and its alloys with steel

PERIODICAL: Svarochnoye proizvodstvo, no. 5, 1961, 8 - 11

TEXT: In 1959, the author together with Candidate of Technical Sciences D. Ya. Cluskin and Engineer N. A. Fedorov developed the following two variants of argon-arc welding of aluminum with steel: 1. An up to 0.1 mm thick alitized aluminum layer is applied to the steel and on its surface 3 aluminum layers are built up by argon-arc welding at 110 - 130 amp current and 0.12 - 0.24 m/min welding speed, using 2 mm diameter tungsten electrode and 2 mm diameter aluminum filler wire. As a result a pure Al layer is being formed which is connected with the steel by a uniform 0.1 to 0.12 mm thick intermetallic layer. The strength of the weld joint is equal to that of pure Al. 2. After cleaning, the steel is subjected to hot or galvanic zinc plating (the zinc layer is 0.02 - 0.04 mm thick) three aluminum layers are applied onto the steel by argon arc welding under the aforementioned conditions. The intermetallic layer connecting the built-up metal

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A006/A101

Investigation of some peculiarities in...

to the steel is less thick (up to 0.025 mm) and less strong than in the former case. However, the second method proved more practical and in 1960 the author carried out further investigations of argon-arc welding aluminum with zinc-plated steel (Fig. 2). The following four types of joint can be produced by this method: a) joints consisting entirely of an intermetallic phase; b) joints with a developed bonding layer and separate intermetallic inclusions in the weld metal; c) joints with a well developed layer without intermetallic inclusions in the weld metal; d) joints with a weakly development bonding layer (Fig. 3). The effect of argon-arc welding conditions on the dimensions of the built up layer and of the bonding layer was studied on 100 x 75 x 3 4С (4S) and СХЛ-4 (SKhL-4) steel plates onto which a 0.04 thick galvanic zinc layer had been applied. АД-1 (AD-1) filler wire was used. Microhardness was determined on the ПМТ-3 (PMT-3) device under 100 kg load. It was found that a uniform 0.01 - 0.15 mm thick well developed intermediate layer was produced at 6 - 14 m/h welding speed. To study the dependence of the strength of the intermediate layer on welding conditions butt and tee-welded specimens were manufactured. For the butt specimens СХЛ-4 (SKhL-4) steel 200 x 100 x 3 mm plates with 0.04 mm zinc layer and 200 x 100 x 3 mm АМг5В (Amg5 V) alloy plates were used. Tee-specimens were welded from 100 x 75 x 3 mm zinc plated steel and 100 x 50 x 4 mm AMg6 alloy plates. Strength tests showed that

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Investigation of some peculiarities in...

welding of butt joints and building up of beads for tee-joints at 110 - 130 amp current and 6 - 7 m/h speed assured stable and sufficiently high strength of weld joints. A 0.15 mm thick bonding layer is sufficient. Higher welding speed reduces the strength of the joint and the thickness of the bonding layer. Corrosion tests yielded satisfactory results. The developed technology represents only a partial solution of arc-welding aluminum and its alloys with steel, since joints of limited strength are produced. In cases however, where the strength of the weld must not be equal but only sufficiently high, the technology described can be recommended for practical use. There are 6 figures, 5 tables and 2 Soviet references.

ASSOCIATION: Leningradskiy korablestroitel'nyy institut (Leningrad Shipbuilding Institute)

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A006/A101

Investigation of some peculiarities in ...

Figure 2: Schematic representation of building up aluminum on steel by argon-arc welding with non consumable electrode

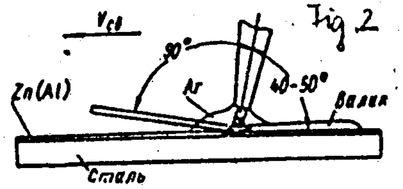
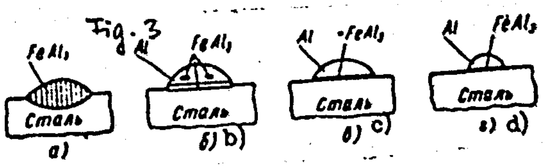


Fig 2

Figure 3: Variants of weld formation when welding aluminum on steel

Fig. 3



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BEL'CHUK, G.A.; GLUSKIN, D.Ya.; FEDOROV, N.A.

Welding aluminum and its alloys to steel. Trudy LKI no.34: 15-22 '61. (MIRA 15:8)

1. Kafedra svarki sudovykh konstruktsiy Leningradskogo korablestroitel'nogo instituta (for Bel'chuk). 2. Kafedra metallovedeniya Leningradskogo korablestroitel'nogo instituta (for Gluskin).

(Aluminum--Welding) (Steel--Welding)

38895
S/125/62/000/007/002/012
D040/D113

2300 (2408)

AUTHORS: Bel'chuk, G.A., Petrushin, I.V., Korobov, P.D., and Sidorov, A.D.

TITLE: Corrosion resistance of welded joints between aluminum alloys and steel

PERIODICAL: Avtomaticheskaya svarka, no. 7, 1962, 8-11

TEXT: Results are given of corrosion tests conducted with argon arc welded joints of aluminum alloys and steel, which were produced in experiments by the Leningradskiy korablestroitel'nyy institut (Leningrad Shipbuilding Institute) -LKI, jointly with the Leningradskiy zavod im. A.A. Zhdanova (Leningrad Plant im. A.A. Zhdanov). The welding techniques were previously described by Bel'chuk ("Svarochnoye proizvodstvo", no. 5, 1961). The strength of welds obtained using these techniques equalled the strength of pure aluminum. The test specimens were prepared by butt-and T-welding AMr6 (AMg6) alloy to zinc-coated low-carbon steel. The corrosion tests, lasting 4,300 hours, were conducted using a Gardner's wheel and a humid-chamber containing a mixture of synthetic sea water and air injected every 30 min. The corrosion resistance was judged according to appearance and mechanical strength tests. No traces of corrosion were revealed in welds; however, the aluminum alloy and steel were affected. The protective effect of ФЛ-03

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Corrosion resistance ....

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D040/D113

(FL-03), АЛГ-1 (ALG-1) and АЛГ-5 (ALG-5) priming paints was also tested, and the FL-03 grade found to be the best. Several experimental structures were welded from standard elements at the Plant imeni Zhdanov, using new argon arc welding techniques, and the following recommendations are made: up to 0.5 m butt welds should be welded directly, without changing the butt faces, but the aluminum element should be flanged if the butt joints are 1 m long or longer, since this makes the alignment easier. Besides, flanging is good for thin metal (thinner than 3 mm), since it prevents the zinc from burning too quickly on the opposite steel element. Conclusions: (1) The corrosion resistance of composite welded structures of aluminum alloy and zinc-coated steel in sea water is sufficient; (2) the new welding technology is suitable forlightweight shielding structures, for joining such structures to steel coamings, for fabricating aluminum alloy cabinets with steel frames, etc. There is 1 figure and 2 tables.

ASSOCIATION: Leningradskiy korablestroitel'nyy institut (Leningrad Shipbuilding Institute) (G.A. Bel'chuk and I.V. Petrushin); Leningradskiy zavod im. A.A. Zhdanova (Leningrad Plant im. A.A. Zhdanov) (P.D. Korobov and A.D. Sidorov)

SUBMITTED: November 9, 1961

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8/137/63/000/003/009/016
A006/A101

AUTHOR: Bel'chuk, G. A.

TITLE: Arc welding aluminum and its alloys with steel, with application of an aluminum layer on the steel by heating with high frequency current

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 21, abstract 3E135 ("Tr. Leningr. korablestroit. in-ta", 1962, no. 36, 11 - 17)

TEXT: Information is given on coating with aluminum by hf-current and on the welding techniques. The calorizing process is conducted as follows. A thin layer (1 - 1.5 mm) of powderlike flux (50% KCl + 50% KF) is applied onto the machined steel surface to protect same against oxidation; a 1 - 3 mm thick plate of pure Al and its alloys is placed on top. With the aid of an inductor, supported from underneath by a steel strap, the latter is heated and the Al layer is melted. An interaction of liquid Al with the heated steel takes place; as a result a connecting intermetallic interlayer of different thickness is formed, which secures the tight connection of the Al layer with the steel. The calorizing

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process by hf-current was conducted on a hf-melting-quenching machine, type ЛПЗ —90 (LPZ-90), 90 kw power. To obtain a transition layer pure Al straps, 1 - 1.5 mm thick, 2 - 3 mm thick АМг-6 (AMg-6) alloy, and 0.8 mm thick Dural straps were used. The operational conditions were: 12 kv voltage on the anode; 1.2 amp current on the anode; 0.3 amp network current; current in the circuit 3.8 kv. The heating time for Al and the AMg-6 alloy is 30 sec, and 45 sec for Dural. A single-turn inductor is employed. Data are given on the thickness of the interlayer, its microhardness and structure. To investigate the strength of the joints in respect of the steel plates with applied AMg, Dural and Al layers, 100 x 50 x 4 mm AMg-6 alloy spikes were welded onto the straps, at 160 - 170 amp welding current using a 3-mm-diameter tungsten electrode. The strength of joints using a pure Al layer was considerably higher than for AMg-6 and Dural layers, and very stable as to the size. The specimens broke down either in the weld or in the heat-affected zone. The techniques of welding Al and its alloys with steel having a pure Al layer that was applied by hf-current, does not differ from conventional argon-arc welding techniques with non-consumable electrode, of Al and its alloys. In such a manner small steel parts may be welded with Al. The calorizing process is much more simple, convenient and rapid as compared

S/137/63/000/003/009/016
A006/A101

Arc welding aluminum and its alloys with...

with conventional calorizing processes - namely immersion of steel in molten Al.

V. Kuznetsov

[Abstracter's note: Complete translation]

Card 3/3

ISKOZ, Boris Borisovich; BEL'CHUK, G.A., kand. tekhn. nauk,
retsenzent; DEMYANTSEVICH, V.P., kand. tekhn. nauk,
nauchn. red.; KAZAROV, Yu.S., red.; KRYAKOVA, D.M.,
tekhn. red.

[Welding and welding equipment] Svarka i oborudovanie svarochnogo proizvodstva. Leningrad, Sudpromgiz, 1963. 287 p. (MIRA 17:2)

BEL'CHUK, G.A., kand. tekhn. nauk

Dynamic strength of joints between steel and aluminum alloys. Svar. proizv. no.11:3-5 N'63. (MIRA 17:5)

1. Leningradskiy korablestroitel'nyy institut.

BEL'CHUK, G.A., kand. tekhn. nauk

Application of butt welds on a permanent steel padding. (MIRA 16:10)
Sudostroenie 29 no.8:52-54 Ag '63.

(Ships—Welding)

GOLOLOBOV, Boris Andreyevich; NIKOLAYEV, Konstantin Georgiyevich; BEL'CHUK, G.A., kand. tekhn. nauk, retsenzent; GRIGOR'YEV, A.A., kand. tekhn. nauk, nauchn. red.; SOSIPATROV, O.A., red.

[Properties of welded joints in hull steels] Svoistva svarnykh soedinenii korpusnykh stalei. Leningrad, Sudostroenie, 1964. 239 p. (MIRA 17:8)

BEL'CHUK, Georgiy Aleksandrovich; OKERBLOM, N.O., red.

[Approximate calculation of the geometrical shape and stress concentration coefficient of butt welded joints according to welding conditions] Priblizhonnyi raschet geometricheskoi formy i koeffitsienta kontsentratsii napriazhenii svarnykh stykovykh soedinenii po rezhimu svarki. Leningrad, 1964. 31 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Svarka, rezka, paika metallov, no.2)
(MIRA 17:10)

RABKIN, D.M.; RYABOV, V.R.; BEL'CHUK, G.A., kand. tekhn. nauk, retsenzent

[Welding aluminum and its alloys with steel and copper] Svarka aliuminiia i ego splavov so stal'iu i med'iu. Moskva, Mashinostroenie, 1965. 93 p. (MIRA 18:6)

BEL'CHUK, V., kand.ekonomicheskikh nauk

Let's turn out only good quality merchandise. Sov. torg. 34 no.8:29-31 Ag '61. (MIRA 14:8)
(Russia--Manufactures) (Production standards)

CHERNUKHIN, A.Ye., inzh., red.; ASHKENAZI, E.L., red.; YEFREMOVA, M.K.,
red.; IVANOV, N.F., red.; KRASNOBRODSKAYA, L.L., red.;
MOSHENTSEVA, I.I., red.; KHANDIN, V.Ye., red.; BEL'CHUK, V.I.,
mladshiy red.; KOMAROVA, Ye.B., mladshiy red.; SMIRNOVA, N.V.,
mladshiy red.; KHMYROVA, I.I., mladshiy red.; BRUDNO, K.F.,
tekhn. red.; KOLESNIKOVA, A.P., tekhn. red.

[English-Russian technical dictionary]Anglo-russkii politekhnicheskii slovar'. Moskva, Glav. red. inostr. nauchno-tekhn. slovarei Fizmatgiza, 1962. 663 p. (MIRA 15:11)
(English language—Dictionaries—Russian)
(Technology—Dictionaries)

BELCHYGETSYANU, K. [Belciugateanu, C.]

Some problems of the classification and nomenclature of mental diseases. Zhur. nevr. i psikh. 63 no.6:898-903 '63.

(MIRA 17:6)

1. Psikhiatricheskoye otdeleniye bol'nitsy imeni G. Marinesku, Bukharest (zav. - prof. Konstantsa Parkhon-Shtefensku [Constanta Parhon Stefanescu]).

Country : YUGOSLAVIA
Category : Farm Animals.
The Honey Bee.
Q-5
Abs. Jour : Ref Zhur-Biol., No 16, 1958, 74160
Author : Belcic, Josip
Institut. : -
Title : Black Bees.

Orig Pub. : Pcelarstvo, 1957, 12, No 5, 105-107

Abstract : Stealing from bees is described as well as its causes and the measures of its prevention. When stealing sets in, it is recommended to transfer the bee-colonies which are exposed to attack for a distance of 4-5 km.

Card: 1/1

BELCIN, Ilie

Prelude to the realizations of next year. Constr Buc 15 no.723: 2 16 N '63.

1. Seful serviciului plan de la fabrica "Proletarul", Turda.

VOINESCU,Al., corespondent; POPESCU,N.; BELCIN,Ilie, planificator.

Competition chronicle. Constr Buc 16 no.735:1 8 F'64.

BELCIN, Ilie

The source[illegible]f internal resources. Constr Buc 16 no.730:2
4 Ja'64.

1. Din subredactia voluntara de la Turda.

BELCIN, Ilie, planificator

A new refractory product. Constr Buc 16 no.742:2 28 March 1964.

1. Din subredactia voluntara de la Turda.

TIBOR, Iona, corespondent; SANDU, B., ing.; BELCIN, Ilie, corespondent;
SIMIONESCU, Mircea, corespondent; SZILAGHI, Gh., corespondent;
SZECSI, M., corespondent; MARCOVICI, Gh., corespondent

More and more enterprises with the annual plan carried out.
Constr Buc 14 no. 674: 1 8 December 1962.